REMARKS/ARGUMENTS

Claims 6-8 and 15 are pending. Applicants elected claims 6-8 and 15, restricted to CENP-E polypeptides (Group IIB), with traverse, in response to a second Restriction Requirement mailed December 24, 2003. Claims 6 and 8 are canceled. Claims 7 and 15 has been amended. New claims 16-21 are added.

Support for amendment of claim 7 can be found, e.g., p. 8, lines 4-5 (referring to full-length protein, and my implication a fragment thereof comprising the motor domain), at page 37, lines 21-25, in the paragraph spanning pages 41-42, and p.14, lines 18-30. Support for amendment of claim 15 can be found, e.g., at page 37, lines 21-25. Support for new claims 16-20 can be found, e.g., at page 37, lines 21-25. Support for new claim 21 can be found, e.g., at page 39, line 1, through page 41, line 21.

The substitute sequence listing discloses the same sequences disclosed in the application. The paper version of the substitute sequence listing is identical to the CRF substitute sequence listing. No new matter is involved.

35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 15 as indefinite. The Examiner says that claim 15 is indefinite because Applicants have not listed the claimed sequences in the electronic copy of the sequences and therefore they cannot be searched.

Applicants enclose with this response a substitute sequence listing in computer readable format (CRF) and paper formats to replace the sequence listing filed April 22, 2002. The paper version of the substitute sequence listing is identical to the CRF substitute sequence listing. The substitute sequence listing comprises the 87 sequences from the original sequence listing and SEQ ID NO: 88, which is the full length amino acid sequence of the CENP-E polypeptide according to GenBank accession number Z15005. The M329, T340, S405, V465, and T488 peptides are fragments of this full length protein sequence described in the specification in Table II, page 37 (lines 21-25), which denotes the boundaries of these peptides. The nomenclature denoting these boundaries is further explained at p. 38, lines 14-19. GenBank

accession number Z15005 is the reference sequence used to determine the peptide boundaries, as disclosed in Table I, page 35, line 5, and is incorporated by reference. Thus, the substitute sequence listing comprising SEQ ID NO: 88 adds no new matter. This sequence has been added to the sequence listing for the sole purpose of providing the Examiner with an electronic version of the CENP-E protein sequence to facilitate searching by the Examiner.

Claim 15 has also been amended to remove unelected species.

35 U.S.C. § 112, first paragraph

Claims 6-8 are rejected as not described. Claims 6 and 8 have been canceled. Claim 7 has been amended. The rejection is traversed insofar as it might be applied to amended claim 7.

As noted by the Examiner at page 3 of the office action, written description of an invention requires a precise definition, such as a structure, formula, or chemical name of the claimed subject matter sufficient to distinguish it from other materials. The revised interim written description guidelines mentioned by the Examiner provide guidance for determining if sufficient structure has been recited that describes a molecule. The standard for the written description requirement can be met through disclosure of a structure-to-function relationship between the disclosed species and other species to establish a relationship among species. A claim directed to a genus (e.g., claim 7) can satisfy the written description requirement by, for example, disclosing "relevant identifying characteristics" (Fed. Reg., vol. 66, page 1099 (January 5, 2001)). Examples of such characteristics are said to include: (1) structures or other chemical or physical properties, (2) functional characteristics coupled with a known or disclosed correlation between structure and function, or (3) combinations of such identifying characteristics.

Claim 7 as amended satisfies the written description requirement by disclosing relevant identifying characteristics. Claim 7 as currently amended recites CENP-E protein fragments that have at least 80% sequence identity to the fragments disclosed at p.37, lines 21-25, thus satisfying the structural criterion set forth in (1) above. Claim 7 further satisfies the criterion of (2) by defining the currently claimed protein fragments as having the ability to

hydrolyze ATP in the presence of microtubules (a functional characteristic). Thus, claim 7 as amended satisfies the written description requirements as set forth in the written description guidelines.

Furthermore, claim 7 as amended is in accord with the type of claim discussed in Example 14 of the "Synopsis of Application of Written Description Guidelines" (Synopsis)," which the Patent Office says satisfies the written description requirements. Example 14 of the Synopsis is directly analogous to current claim 7. The claim in Example 14 of the Synopsis reads as follows:

> A protein having SEQ ID NO:3 and variants thereof that are at least 95% identical to SEQ ID NO:3 and catalyze the reaction of A to B.

Because claim 7 as amended defines the genus in functional terms that are related to a disclosed correlation between structure and function (see written description guideline criteria above), the Synopsis concludes that the disclosure meets the written description requirements with respect to this exemplary claim. Currently claim 7 is in the same format as this claim (i.e., linking functional characteristics to structural characteristics), and this relationship is fully supported by the specification. So by analogy, currently amended claim 7 satisfies the written description requirements for the same reasons as the exemplary claim presented in Example 14 of the Synopsis.

Nonstatutory Double Patenting

Applicants enclose a terminal disclaimer that disclaims any patent term beyond the term of U.S. Patent 6,544,766 if the present claims remain in their present form and on notification of otherwise allowable subject matter.

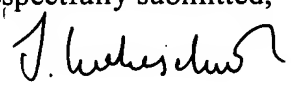
35 U.S.C. §102(b)

Claims 6-7 are rejected as anticipated by Scharr et al. Claim 6 has been canceled. Claim 7, as amended, is not anticipated by Scharr because claim 7 is directed to a fragment of CENP-E having ability to hydrolyse ATP. Scharr discusses full-length CENP-E and a fragment

lacking the motor domain (and hence capacity to hydrolyse ATP) (see p. 1375 at col. 1, 3rd paragraph). Therefore, Scharr does not anticipate claim 7 as amended.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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Attachments
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